

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION

TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

☐ **Surface Water** (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

☒ **Ground Water** (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE January 30, 1990	APPLICATION NUMBER G 2-27693	PERMIT NUMBER	CERTIFICATE NUMBER
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NAME
City of Bonney Lake

ADDRESS (STREET) Post Office Box 7380	(CITY) Bonney Lake	(STATE) Washington	(ZIP CODE) 98390
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PUBLIC WATERS TO BE APPROPRIATED

SOURCE
A well (Tacoma Point Well No. 4)

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE 1,200	MAXIMUM ACRE-FEET PER YEAR 1,600
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QUANTITY, TYPE OF USE, PERIOD OF USE 1,600 acre-feet per year	Municipal Supply	Year-round, as needed
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LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION-WITHDRAWAL
1,440 feet north and 290 feet west of the southeast corner of Section 5.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION) NE $\frac{1}{4}$ SE $\frac{1}{4}$	SECTION 5	TOWNSHIP N. 20	RANGE, (E. OR W.) W.M. 5E	W.R.I.A. 10	COUNTY Pierce
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RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)
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LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

Bonney Lake Water Service Area as identified by Pierce County Coordinated Water System Plan.

DESCRIPTION OF PROPOSED WORKS

12" x 315' well, equipped with a pump capable of discharging 1,200 gallons per minute (gpm).

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:

Started

COMPLETE PROJECT BY THIS DATE:

January 1992

WATER PUT TO FULL USE BY THIS DATE:

January 1993

REPORT

BACKGROUND

On January 30, 1990, the City of Bonney Lake filed for a permit, under the provisions of Chapters 90.03 and 90.44, Revised Code of Washington (RCW), to appropriate public ground water from a well. The application was accepted for processing and assigned application No. G 2-27693 and given a priority date of January 30, 1990.

The City initially requested an instantaneous withdrawal of 1,000 gallons per minute (gpm) for municipal supply. On February 4, 1991, the City requested that the quantity of water applied for be increased to 1,200 gpm.

A legal notice of the proposed appropriation was prepared by department staff and published in "The News Review" of Pierce County. A legal notice of the proposed increased appropriation was published in the "Pierce County Herald" of Puyallup, Washington. No objections to this appropriation were received.

INVESTIGATIONS

In consideration of this application, I conducted a field investigation on March 30, 1991. Representatives from the City of Bonney Lake, Public Works Department, were present at the time of the site visit. Other investigations included a review of well logs, recorded water rights and water right claims, and conversations with Richard Meuschke, the City's Public Works Director.

The well identified on this application, known as Well No. 4, is one of two wells constructed on the Tacoma Point Well Site. Well No. 2, covered under Water Right application No. G 2-26854, has been constructed approximately fifty feet from Well No. 4.

Well No. 4 was constructed by Armstrong Well Drilling in 1990. The well was drilled to a depth of 315' below ground level, through various layers of sands, gravels, and silts, and completed with a 23' screen in water bearing sands and gravels. Well No. 2, drilled in 1985 and 1986, is completed in the same formation at a depth of 307', with an 18' screen in water bearing sands and gravels.

A well known as the "Old Tacoma Point Well", drilled in 1955, was originally located on the site of Wells Nos. 2 and 4, and was covered under Water Right No. 2809A, with a priority date of January 23, 1957. This well was abandoned on January 4, 1988, by Armstrong Well Drilling. Water Right No. 2809A has not been relinquished at this time, and the relinquishment of Water Right No. 2809A will be a provision of this permit.

A total of seven well logs, representing wells constructed within a one mile radius of the subject well, are on file with the Department of Ecology. A review of these logs shows that all of the wells appear to be completed in the same water bearing formation, a formation that occurs at a depth of approximately 300 feet above sea level. The well logs reveal an aquifer that is very inhomogeneous, and testing performed on Well No. 4 bears this out, showing an aquifer with multiple boundaries, yet quite transmissive.

Step rate and constant rate pumping tests were performed on this well, and are described in the report entitled Water Well No. 4-Report on Installation and Testing, prepared by Gray & Osborne, the consultant on this project. The tests address only those factors leading to an estimation of long-term drawdown and a recommended instantaneous withdrawal, although a transmissivity of 688,000 gallons per day per foot was estimated. The consultant recommended that the well be pumped at no more than 1,200 gpm, and at this rate predicted a long-term drawdown of 8-10 feet at the end of 100 days of continuous pumping. The City of Bonney Lake initially planned to withdraw water at a rate of 1,000 gallons per minute, but requested that the withdrawal be increased to 1,200 gpm, based on the above referenced report.

Because of the paucity of data obtained during the pumping tests, the close proximity of Well No. 2, and because an aquifer test was not performed during the testing regimen, any permit that is issued will require the

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City to monitor water levels weekly in both Wells No. 2 and 4. The City shall submit this data to the Department of Ecology prior to issuance of any certificate.

Ground Water Rights have been issued within one mile of Well No. 4, to the Dieringer School District No. 343, and to the City of Bonney Lake. Based on the well spacing and water usage requirements in this area, well interference is unlikely, however, owing to the proximity of neighboring wells, the City of Bonney Lake is reminded of the responsibility toward same, and advised that the withdrawal and pumping rate of this well may be regulated if existing rights are injuriously affected.

DISCUSSION

Growth within the area served by the City of Bonney Lake has exceeded expectations, and the current population estimate for the year 2010 is 37,478. At present, the City of Bonney Lake serves water to approximately 4,500 customers, with an average daily water consumption of approximately 120 gallons per day per capita. Based on a projected population of 37,478, and an expectation that water use per capita will remain near current levels, the City of Bonney Lake will require a total of 5,040 acre-feet per year to supply the area served in the year 2010.

The City of Bonney Lake currently holds surface and ground water rights in the following amounts:

Primary rights	3,678.4 acre-feet 6.2 cfs 2,610 gpm
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Supplemental rights (instantaneous withdrawal only)	1945 acre-feet
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These rights, acquired by either application or purchase, are described, as follows:

Certificate

6459	Unnamed spring tributary to Kelly Creek no annual amount 0.50 cfs
S2-00840C	Unnamed spring tributary to Fennel Cr. (Victor Falls) 403 acre-feet per year 0.55 cfs
9328	Unnamed spring tributary to Elhi Creek 22.4 acre-feet per year 0.22 cfs
11485	Unnamed spring tributary to Fennel Creek 504 acre-feet per year 0.70 cfs
9652	Unnamed spring tributary to Fennel Creek 504 acre-feet per year 0.70 cfs
S2-20715C	Unnamed springs tributary to Elhi Cr. (Grainger Springs) 2,000 acre-feet per year 3.53 cfs
2979A	Well (No longer in use) 48 acre-feet per year 30 gpm
2809A	Well (No longer in use) 45 acre-feet per year 100 gpm

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3428A	Well 288 acre-feet per year 180 gpm
6671A	2 wells 185 acre-feet per year 270 gpm from two wells
G2-22219C	Well (No longer in use) 24 acre-feet per year 30 gpm
G2-26853C	Well (Ball Park well) 800 acre-feet per year 1,000 gpm
G2-26854C	Well (Tacoma Point well) 800 acre-feet per year 1,000 gpm

A review of Department of Health documents shows that a number of these rights are not in use and should be relinquished, as follows:

Certificate

2979A	Well
2809A	Well
G2-22219C	Well

Certificates covering abandoned wells will be relinquished to the state prior to certification of this right, thus the net rights to be considered under existing certificates are as follows:

Primary rights	3,273.4 acre-feet
	6.2 cfs
	2,270 gpm

Supplemental rights (instantaneous withdrawal only)	1,945 acre-feet
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Based on the projected population of 37,478 in the year 2010, and an average per capita daily use of 120 gallons, the City of Bonney Lake will require a total of 5,040 acre-feet per year to supply the area served. The City has been issued a total of 3,273 acre-feet of primary rights to date, and thus will require an additional 1,767 acre-feet of water by the year 2010. The City has been issued a total of 1,945 acre-feet of supplemental rights, to furnish instantaneous supply during periods of high demand.

In this application, the City requested an allotment of 1,600 acre-feet per year for municipal supply, which will bring the total primary rights held by the City to 4,873 acre-feet.

This permit will allow withdrawal of 1,200 gpm from a well, known as Well No. 4 at the Tacoma Point Well Site, for municipal supply to the area served by the City of Bonney Lake. This water right will be issued as a primary supply, and limited to a total of 1,600 acre-feet per year.

The water from this well is to be used within the Bonney Lake Water Service Area as identified in the Pierce County Coordinated Water System Plan.

It is the policy of the State of Washington for all water users to use water efficiently. The City of Bonney Lake is required to undertake the development and implementation of a comprehensive long-term conservation program, and meet the requirements outlined in the Model Compliance Manual.

CONCLUSIONS

In accordance with Chapters 90.03 and 90.44 RCW, I find there is water available for appropriation from the source in question, that the appropriation is for a beneficial use, and will not impair existing rights or be detrimental to the public welfare.

RECOMMENDATIONS

I recommend approval of this application and issuance of a permit to allow appropriation of 1,200 gpm from Well No. 4, for municipal supply to the area served by the City of Bonney Lake. The total amount of water withdrawn shall not exceed 1,600 acre-feet per year. The period of use shall be year-round, as needed.

The total amount of water allotted to the City of Bonney Lake under all previous water rights, including this water right, shall not exceed 4,873 acre-feet per year.

The permit shall be subject to existing rights and the following provisions:

Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gauge may be installed in addition to the access port.

The use of the waters to be appropriated under this application will be for a public water supply. The State Board of Health rules require every owner of a public water supply to obtain written approval from the Office of Water Supply, Department of Health, Mail Stop LD-11, Building 3, Olympia, Washington 98504, prior to any new construction or alterations of a public water supply.

An approved measuring device shall be installed and maintained in accordance with RCW 90.03.360, WAC 508-64-020 through -040 (installation, operation, and maintenance requirements are attached).

A certificate of water right will not be issued until a final investigation is made.

All water wells constructed within the state shall meet the minimum standards for construction and maintenance as provided under RCW 18.104, Washington Water Well Construction Act of 1972, and Chapter 173-160 WAC, Minimum Standards for Construction and Maintenance of Wells.

The Water Resources Act of 1971 specifies certain criteria regarding utilization and management of the waters of the state in the best public interest. Favorable consideration of this application has been based on sufficient waters available, at least during portions of the year. However, it is pointed out to the applicant that this use of water may be subject to regulation at certain times, based on the necessity to maintain water quantities sufficient for preservation of the natural environment.

This permit is subject to the implementation of the minimum requirements established in the Interim Guidelines for Public Water Systems Regarding Water Use Reporting, Demand Forecasting Methodology and Conservation Programs, July 1990, which are attached. In addition, a model compliance manual is attached.

The following Water Rights are held by the City of Bonney Lake, but are not in use and should be relinquished:

Certificate

2979A Well

2809A Well

G2-22219C Well

Certificates covering abandoned wells will be relinquished to the state prior to certification of this right.

REPORTED BY: Don Jaid DATE: August 1, 1991

The statutory permit fee for this application is \$20.00.